1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
   Product name : Casein Hydrolysate
   Product Number : 22090
   Brand : Sigma-Aldrich

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
   Company : Sigma-Aldrich
   3050 Spruce Street
   SAINT LOUIS MO 63103
   USA
   Telephone : +1 800-325-5832
   Fax : +1 800-325-5052

1.4 Emergency telephone number
   Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
   Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements
   Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
   No ingredients are hazardous according to OSHA criteria.
   No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

4.1 Description of first aid measures
   If inhaled
   If breathed in, move person into fresh air. If not breathing, give artificial respiration.

   In case of skin contact
   Wash off with soap and plenty of water.

   In case of eye contact
   Flush eyes with water as a precaution.

   If swallowed
   Never give anything by mouth to an unconscious person. Rinse mouth with water.
4.2 **Most important symptoms and effects, both acute and delayed**
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 **Indication of any immediate medical attention and special treatment needed**
no data available

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5. **FIREFIGHTING MEASURES**

5.1 **Extinguishing media**

*Suitable extinguishing media*
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 **Special hazards arising from the substance or mixture**

*Nature of decomposition products not known.*

5.3 **Advice for firefighters**

*Wear self contained breathing apparatus for fire fighting if necessary.*

5.4 **Further information**

*no data available*

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6. **ACCIDENTAL RELEASE MEASURES**

6.1 **Personal precautions, protective equipment and emergency procedures**

*Avoid dust formation. Avoid breathing vapours, mist or gas.*
For personal protection see section 8.

6.2 **Environmental precautions**

*Do not let product enter drains.*

6.3 **Methods and materials for containment and cleaning up**

*Sweep up and shovel. Keep in suitable, closed containers for disposal.*

6.4 **Reference to other sections**

*For disposal see section 13.*

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7. **HANDLING AND STORAGE**

7.1 **Precautions for safe handling**

*Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.*
For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities**

*Keep container tightly closed in a dry and well-ventilated place.*
Store under inert gas. Moisture sensitive. Keep in a dry place.

7.3 **Specific end use(s)**

*Apart from the uses mentioned in section 1.2 no other specific uses are stipulated*

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8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1 **Control parameters**

*Components with workplace control parameters*
Contains no substances with occupational exposure limit values.

8.2 **Exposure controls**

*Appropriate engineering controls*
General industrial hygiene practice.

*Personal protective equipment*

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| a) Appearance | Form: powder  
| Colour: beige  
| b) Odour | no data available  
| c) Odour Threshold | no data available  
| d) pH | 6.0 - 7.0 at 25 °C (77 °F)  
| e) Melting point/freezing point | no data available  
| f) Initial boiling point and boiling range | no data available  
| g) Flash point | no data available  
| h) Evaporation rate | no data available  
| i) Flammability (solid, gas) | no data available  
| j) Upper/lower flammability or explosive limits | no data available  
| k) Vapour pressure | no data available  
| l) Vapour density | no data available  
| m) Relative density | no data available  
| n) Water solubility | no data available  
| o) Partition coefficient: n-octanol/water | no data available  
| p) Auto-ignition temperature | no data available  
| q) Decomposition temperature | no data available  
| r) Viscosity | no data available  
| s) Explosive properties | no data available  
| t) Oxidizing properties | no data available  

9.2 Other safety information
no data available
10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
no data available

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
no data available
Inhalation: no data available
Dermal: no data available
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available
Aspiration hazard
no data available

Additional Information
RTECS: Not available
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
No SARA Hazards

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
Casein Hydrolysate
CAS-No. - Revision Date -
New Jersey Right To Know Components

Casein Hydrolysate

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating
Health hazard: 0
Chronic Health Hazard: 0
Flammability: 0
Physical Hazard 0

NFPA Rating
Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Further information
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Preparation Information
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

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